The Role of Feedback in Skill Acquisition

Evidence-based Practices for Detecting and Correcting Errors

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Four Feedback Factors

1. Precision
2. Timing
3. Mode
4. Frequency
The Precision of Feedback

How precise should you be?

Takeoff Angle = 15 degrees
Takeoff Point

Stride Length = 84 inches

X = 18.87 ft.

Y = 28.9 ft.

INTERCEPT POINT
The Precision of Feedback

Retention

Precision of feedback

(Quantitative)  (Qualitative)
Bandwidth Feedback

Range of Correctness

Provide Feedback

Don’t Provide Feedback
Timing Components for Feedback

Performance Attempt #1

00:05

Feedback Presentation

Performance Attempt #2

00:10
# The Timing of Feedback

<table>
<thead>
<tr>
<th>Misconceptions</th>
<th>Best Practices</th>
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<tr>
<td><em>More is better:</em> The more feedback provided, the better the learning.</td>
<td><em>Fade the amount of feedback provided.</em></td>
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<td><em>The faster the better:</em> Providing feedback immediately following the performance attempt is most effective.</td>
<td><em>Allow processing time after the performance attempt and after the providing of feedback.</em></td>
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<td><em>Increased precision</em> is better: Decreasing the bandwidth is more effective.</td>
<td><em>Fade the bandwidth (expect progressively better performances as skill level increases).</em></td>
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The Mode of Feedback

1. Verbal
2. Kinematic
3. Video
4. Biofeedback
Visual Feedback
Video Feedback

- Used <5 weeks does not work
- Cue the learner
- Preoccupation with irrelevant factors
### Video Feedback Learning Stages

<table>
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<th>Stage</th>
<th>Coach’s Role</th>
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<tr>
<td>1. Shock</td>
<td>Allow athletes to become familiar with viewing videos.</td>
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<tr>
<td>2. Error Detection</td>
<td>Provide attention-focusing cues.</td>
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<td>3. Error Correction</td>
<td>Encourage problem solving.</td>
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<td>4. Independence</td>
<td>Provide encouragement.</td>
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Biofeedback
Nonverbal Feedback

Approximately 50-70% of information conveyed is nonverbal
The Frequency of Feedback
The Frequency of Feedback
The Guidance Hypothesis

High

Gradually reduced (faded)

Feedback

Low

Degree of skill

High
Summary Feedback

Trial 1  Trial 2  Trial 3  Trial 4  Trial 5  Trial 6  Trial 7  Trial 8  Trial 9

Feedback  Feedback  Feedback
Practical Considerations

1. Reduce feedback as athlete becomes more proficient.

2. Correct one error at a time.
Practical Considerations

“When in doubt, be quiet.”
Conclusion

1. Provide feedback more frequently during initial learning, and progressively less frequently as skill level improves.

2. Keep it simple.

3. Help athletes learn to detect and correct their own errors.